

Official Draft Public Notice Version **January 30, 2019**

The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

**FACT SHEET AND STATEMENT OF BASIS  
MAGNA WATER AND SEWER DISTRICT  
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER  
UPDES PERMIT NUMBER: UT0021440  
UPDES BIOSOLIDS PERMIT NUMBER: UTL-021440  
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT PROVISIONS  
MAJOR MUNICIPAL FACILITY**

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**DESCRIPTION OF FACILITY**

The Magna Water and Sewer District's Water Reclamation Facility (MWRF) is located northeast of the City of Magna, Utah. The MWRF serves the City of Magna and part of West Valley City in the northwest part of unincorporated Salt Lake County, Utah. MWRF's monthly average design flow is 4.0 million gallons per day (MGD) and the maximum daily design flow is 8.0 MGD. The domestic wastewater treatment at MWRF consists of (2) fine screens, followed by (2) grit traps, (3) influent lift pumps, (2) oxidation ditches, (2) secondary clarifiers, a chlorine contact chamber with (2) sections prior to the final effluent discharge. The MWRF solids waste handling consists of a screw press facility on site with all biosolids either land applied or sent to an approved off-site disposal facility.

**SUMMARY OF CHANGES FROM PREVIOUS PERMIT**

This renewal permit includes a few changes, including the addition a new effluent discharge location (Outfall 002) to be constructed in 2019. Upon construction of Outfall 002 and subsequent discharges, Outfall 001 will remain in place as an emergency backup discharge option. Other changes include the addition of dissolved oxygen monitoring and associated effluent limitation, along with ammonia and total residual chlorine effluent limit changes based upon the Wasteload Analysis (attached hereto) to accommodate an outfall location change previously discharging to Kersey Creek (tributary to the C-7 Ditch) and now will be discharging directly to the C-7 Ditch receiving waters. Total flow limitations of the effluent have also been included to be consistent with other UPDES permits statewide. Chronic

toxicity testing has been added, along with existing Acute toxicity testing, as part of DWQ's whole effluent toxicity policy requirements which is described further in the Biomonitoring section of this fact sheet. And lastly, the addition of nutrient monitoring parameters for both the influent and effluent flows as described below.

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. The TBPEL rule as it relates to "non-lagoon" wastewater treatment plants establishes new regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020 unless a variance is granted by the Division of Water Quality. MWRF has previously petitioned DWQ for a variance, which is currently under review.

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring of the following beginning July 1, 2015:

- R317-1-3.3, D, 1 Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;
- R317-1-3.3, D, 2. Effluent for total phosphorus and orthophosphate (as P), ammonia, nitrate-nitrite and total Kjeldahl nitrogen (as N);

In R317-1-3.3, D, 3 the rule states that all monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart.

## **DISCHARGE**

### **DESCRIPTION OF DISCHARGE**

MWRF has been reporting self-monitoring results on Discharge Monitoring Reports via NetDMR on a monthly basis as required. There have been no significant discharge violations during the past five year permit cycle.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 40°43'30" and longitude 112°04'26". The discharge is through a pipe east of the facility into Kersey Creek.
002 (New Outfall)	Located at latitude 40°43'43" and longitude 112°04'42". The discharge will be through a 42 inch pipe east of the facility into the C-7 Ditch.

### **RECEIVING WATERS AND STREAM CLASSIFICATION**

Currently, the final discharge from MWRF flows into Kersey Creek via Outfall 001, which is tributary to the C-7 Ditch. Kersey Creek has designated beneficial uses classified as 2B, 3D according to *Utah*

*Administrative Code (UAC) R317-2-12.7.* Upon installation of Outfall 002 in 2019, future discharges will flow directly into the C-7 Ditch. The C-7 Ditch, which was determined by DWQ to be a drainage ditch, does not have designated beneficial uses or downstream agricultural users. Therefore, per *UAC R317-2-13.10*, the presumptive beneficial uses for all drainage canals and ditches statewide are 2B and 3E. The applicable designated beneficial uses are as follows:

- Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- Class 3D -- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
- Class 3E -- Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.

#### **BASIS FOR EFFLUENT LIMITATIONS**

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD<sub>5</sub>), *E. coli*, pH and percent removal for BOD<sub>5</sub> and TSS are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*. Total ammonia (as Nitrogen) and dissolved oxygen (DO) limitations are based upon the Wasteload Analysis (WLA), which is attached as an Addendum to this Fact Sheet. Total residual chlorine (TRC) limitations for Outfall 002 are based upon the WLA, while the TRC limit for Outfall 001 is continued from the previous permit and based upon best professional judgment of the permitting authority (BPJ). The oil and grease limitation is also based on BPJ and is consistent with other similar UPDES permits statewide.

It has been determined by the permitting authority that discharges will not cause a violation of water quality standards. An Antidegradation Level I review was performed and determined that an Antidegradation Level II review was required since there is a new outfall to a different receiving water body. The Antidegradation Level II review was previously completed through a separate public notice period and approved by DWQ on July 25, 2018. The permittee is expected to be able to comply with these limitations.

#### **Reasonable Potential Analysis**

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance as follows;

- Outcome A: A new effluent limitation will be placed in the permit.
- Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
- Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
- Outcome D: No limitation or routine monitoring requirements are in the permit.

These Outcomes provide a frame work for what routine monitoring or effluent limitations are required.

A qualitative RP analysis was performed on the applicable metals constituents from the MWRf discharge data over the past five years. Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at any of the metals is not needed since all of the semi-

annual metals results were either below the appropriate method detection limits and/or below the applicable water quality standards. Therefore, no RP currently exists at MWRP and a quantitative RP analysis was not necessary at this time. The results of the RP analysis was; Outcome C: No new effluent limitation, routine monitoring requirements maintained as they are in the permit. A copy of the RP analysis summary is included as an addendum to this Fact Sheet.

The permit effluent limitations are as follows for both Outfalls (001 & 002) unless stated otherwise:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	4.0	--	--	--	--
BOD <sub>5</sub> , mg/L	25	35	--	--	--
BOD <sub>5</sub> Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
Total Ammonia (as N), mg/L	7	--	--	--	30
TRC, mg/L (001)	--	--	--	--	1.0
TRC, mg/L (002);	--	--	--	--	--
Summer (Jul-Aug-Sept)	--	--	--	--	17.3
Fall (Oct-Nov-Dec)	--	--	--	--	2.6
Winter (Jan-Feb-Mar)	--	--	--	--	1.3
Spring (Apr-May-Jun)	--	--	--	--	2.6
<i>E. coli</i> , No./100mL	126	157	--	--	--
WET, Acute Biomonitoring (001 & 002)	--	--	--	--	LC <sub>50</sub> > 100% effluent
WET, Chronic Biomonitoring (002 only)	--	--	--	--	IC <sub>25</sub> > 30% effluent
Oil & Grease, mg/L	--	--	--	--	10
pH, Standard Units	--	--	--	6.5	9
DO, mg/L	--	--	--	5.0	--

## SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are similar as in the previous permit. The permit will require reports to be submitted monthly, quarterly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be also attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD <sub>5</sub> , Influent *d	2 x Week	Composite	mg/L
Effluent	2 x Week	Composite	mg/L

TSS, Influent *d	2 x Week	Composite	mg/L
Effluent	2 x Week	Composite	mg/L
<i>E. coli</i>	2 x Week	Grab	No./100mL
pH	Daily	Grab	SU
Total Ammonia (as N)	Weekly	Composite	mg/L
DO	Weekly	Grab	mg/L
WET – Biomonitoring *e	Quarterly		
Ceriodaphnia - Acute	1 <sup>st</sup> & 3 <sup>rd</sup> Quarter	Composite	Pass/Fail
Ceriodaphnia - Chronic	2 <sup>nd</sup> & 4 <sup>th</sup> Quarter	Composite	Pass/Fail
Fathead Minnows - Acute	2 <sup>nd</sup> & 4 <sup>th</sup> Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	1 <sup>st</sup> & 3 <sup>rd</sup> Quarter	Composite	Pass/Fail
TRC, mg/L	Monthly	Grab	mg/L
Oil & Grease *f	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) Effluent	Monthly	Composite	mg/L
Phosphorus, Total *d			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, *d TKN (as N)			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO <sub>3</sub>	Monthly	Composite	mg/L
Nitrite, NO <sub>2</sub>	Monthly	Composite	mg/L
Metals, Influent *g	2 x Year	Composite	mg/L
Effluent	2 x Year	Composite	mg/L
Organic Toxics, Influent	1 <sup>st</sup> , 3 <sup>rd</sup> & 5 <sup>th</sup> year of the permit cycle		
Effluent *h		Grab/Composite	mg/L

\*a See *Part VIII* of the permit, for definition of terms.

\*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

\*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

\*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

\*e The acute Ceriodaphnia will be tested during the 1<sup>st</sup> and 3<sup>rd</sup> quarters and the acute fathead minnows will be tested during the 2<sup>nd</sup> and 4<sup>th</sup> quarters. The chronic Ceriodaphnia will be tested during the 2<sup>nd</sup> and 4<sup>th</sup> quarters and the chronic fathead minnows will be tested during the 1<sup>st</sup> and 3<sup>rd</sup> quarters.

\*f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

\*g See Metals Monitoring table in *Part II*. of the permit.

\*h Testing shall be performed in the first, third and fifth year of the permit cycle. A list of the organics to be tested can be found in *40CFR122 appendix D table II*.

### **BIOSOLIDS**

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the

solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

#### DESCRIPTION OF TREATMENT AND DISPOSAL PROCESS

The Magna Water and Sewer District (Magna) operates The MWRF which services the City of Magna. The facility treats wastewater in oxidation ditches and sends it through clarifiers to separate the solids from waste stream. Solids are stabilized in the oxidation ditches with a mean cell residences time of about 50 days. Wasted sludge is then sent to a screw press for dewatering that discharges to a trailer used to transport the biosolids offsite for final disposal.

The solids dewatering building containing the screw press was constructed in one of two 1.4 acre drying beds. The old beds are no longer in service but are utilized to store equipment and material at the facility site and reduce impacts on storm water at the site. The facility also has ten 0.12 acre drying beds from decades ago that can be used in the same way. The beds have been used to store/stage biosolids for land application in the past, but currently they are only used to store biosolids when they can't transport deliver to ET Technologies.

Currently Magna sends all biosolids to ET Technologies for further treatment and use at the Salt Lake Valley Solid Waste Management Facility. ET Technologies mixes the biosolids petroleum cleanup soils, sump and interceptor waste, and other mixed waste, then stabilize it in cells until it can be used for cover at the landfill.

In the past Magna has land applied the biosolids at a mine reclamation site, but the receiving facility started to be concerned with the level of plastic that was getting through the primary screening and making its way through to the biosolids. Since that time Magna has replaced and upgraded the screening system, eliminating plastic from the biosolids. Magna has not commenced land application again yet, but is ready to do so when needed in the future.

The last biosolids inspection conducted at the MWRF was on September 11, 2018. The inspection showed that MWRF was in compliance with all aspects of the biosolids management program.

#### SELF-MONITORING REQUIREMENTS

Under *40 CFR 503.16(a)(1)*, the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

Annually the MWRF disposes of approximately 500 DMT of biosolids and would therefore need to sample four times a year. However, MWRF has recently petitioned DWQ for a reduction in sampling frequency to once per year following Part II.B.4.d of the permit. Subsequently, DWQ approved this reduction as of October 2018. Accordingly, the permittee will sample once per year unless they chose to

land apply, which will then resume to sampling four times per year as required.

#### Landfill Monitoring

Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (*40 CFR 258.28(c)(1)*). As mentioned above, the MWRF currently sends all biosolids to ET Technologies for further treatment and use at the Salt Lake Valley Solid Waste Management Facility. ET Technologies mixes the biosolids petroleum cleanup soils, sump and interceptor waste, and other mixed waste, then stabilize it in cells until it can be used for cover at the landfill.

### **BIOSOLIDS LIMITATIONS**

#### Heavy Metals

##### Class A Biosolids for Home Lawn and Garden Use

The intent of the heavy metals regulations of Table 3, *40 CFR 503.13* is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to be made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

##### Class A Requirements With Regards to Heavy Metals

If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 1 and the monthly average pollutant concentrations in Table 3 (see Table 1 and Table 3 below). If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

##### Class B Requirements for Agriculture and Reclamation Sites

The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of *40 CFR 503.13*, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

##### Class B Requirements With Regards to Heavy Metals

If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

The maximum heavy metals listed in *40 CFR Part 503.13(b) Table 1* and the heavy metals loading rates in *40 CFR Part 503.13(b) Table 2*; or

The maximum heavy metals in *40 CFR Part 503.13(b) Table 1* and the monthly heavy metals concentrations in *40 CFR Part 503.13(b) Table 3*.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg)	CPLR <sup>1</sup> , (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR <sup>2</sup> , (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit .If the biosolids do not meet these requirements they cannot be land applied.

#### Pathogens

The Pathogen Control class listed in the table below must be met;

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN <sup>3</sup> per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids). or	Fecal Coliforms – less than 2,000,000 MPN per gram total solids. or
Fecal Coliforms – less than 1,000 MPN per gram total solids.	Fecal Coliforms – less than 2,000,000 CFU <sup>4</sup> per gram total solids.
And - Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
And - Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

#### Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids.

<sup>1</sup> CPLR -- Cumulative Pollutant Loading Rate

<sup>2</sup> APLR – Annual Pollutant Loading Rate

<sup>3</sup> MPN – Most Probable Number

<sup>4</sup> CFU – Colony Forming Units



Magna does not intend to give away biosolids for land application on home lawns or gardens, and will therefore not be required to meet PFRP. If Magna changes their intentions in the future, they will need to meet a specific PFRP, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice.

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away to the public, and the permittee will need find another method of beneficial use or disposal.

#### Pathogens Class B

If future biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). The PSRP may be accomplished through composting:

1. Under *40 CFR 503.32 (b)(2)*, TSSD may test the biosolids and must meet a microbiological limit of less than 2,000,000 MPN of fecal coliform per gram for the biosolids to be considered Class B biosolids with respect to pathogens.
2. Under *40 CFR 503.32 (b)(3)* The PSRP may be accomplished through anaerobic digesters that have a minimum retention time of 15 days at 95° F (35° C) or 60 days at 68° F (20° C).
3. Under *40 CFR 503.32 (b)(3)* the PSRP may be accomplished through composting. To achieve this, the temperature must be above 40° C (104° F) or higher, and remain at 40° C or higher for a minimum of five days. For four hours, during the five days, the temperature needs to exceed 55° C (113° F).

#### Vector Attraction Reduction (VAR)

If the biosolids are land applied, MWRF will be required to meet VAR through the use of a method of listed under *40 CFR 503.33*. The VAR requirements must be met through one of the methods listed below:

1. Under *40 CFR 503.33(b)(1)*, the solids need to be treated through anaerobic digestion for at least 15 days at a temperature of at least 35° C (95° F) with a 38% reduction of volatile solids.
2. Under *40 CFR 503.33(b)(5)* the solids need treated through composting with a temperature of 40° C (104° F) or higher for at least 14 days with an average temperature of over 45° C (113° F).

If the biosolids do not meet a method of VAR, the biosolids cannot be land applied.

If the permittee intends to use another one of the listed alternatives in *40 CFR 503.33*, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice

#### Landfill Monitoring

Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (*40 CFR 258.28(c)(1)*).

### Record Keeping

The record keeping requirements from *40 CFR 503.17* are included under *Part III.G.* of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR 503.13*, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must be retained for a minimum of five years.

### Reporting

MWRF must report annually as required in *40 CFR 503.18*. This report is to include the results of all monitoring performed in accordance with *Part III.B* of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

## **MONITORING DATA**

### **METALS MONITORING DATA**

Magna monitors a minimum of four times a year for pollutants, pathogens and applicable vector attraction reduction requirements according to *40 CFR Part 503.16(1)(a)*. The results of the previous five years of metals monitoring are summarized in the table below.

Metals Limits and Concentration Summary, (mg/kg)				
Heavy Metals	Table 1	Table 3	Magna Results	
	Ceiling Conc. Limits, (Max)	Pollutant Conc. Limits, (Avg)	Avg	Max
Arsenic	75	41	17.02	19.8
Cadmium	85	39	0.7092	0.807
Copper	4300	1500	449.2	565
Lead	840	300	0.914	1.15
Mercury	57	17	9.436	10.9
Molybdenum	75	--	13	17.2
Nickel	420	420	12.36	16
Selenium	100	100	11.186	17.5
Zinc	7500	2800	496	567

The results indicate that the biosolids produced at Magna consistently meet the requirements to be considered exceptional quality with regards to pollutants. The option to reduce or eliminate metals monitoring was evaluated by DWQ while Magna continues to take the biosolids to ET Technologies for disposal. In *40 CFR Part 503.16(1)(a)(2)*, a facility may request and be allowed to reduce the monitoring frequency for pollutants after at least two years of monitoring has shown they meet the *40 CFR Part 503.13(b)* Table 3 limits. Magna submitted a formal request letter to DWQ which was subsequently evaluated and approved in October 2018. Therefore, Magna will now only need to sample once per year instead of four times per year.

## **STORM WATER**

### **STORMWATER REQUIREMENTS**

Storm water provisions are included in this combined UPDES permit. The storm water requirements are

based on the UPDES Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity, General Permit No. UTR000000 (MSGP). All sections of the MSGP that pertain to discharges from wastewater treatment plants have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include:

1. The development of a pollution prevention team,
2. Development of drainage maps and materials stockpiles,
3. An inventory of exposed materials,
4. Spill reporting and response procedures,
5. A preventative maintenance program,
6. Employee training,
7. Certification that storm water discharges are not mixed with non-storm water discharges,
8. Compliance site evaluations and potential pollutant source identification, and
9. Visual examinations of storm water discharges.

#### **PRETREATMENT REQUIREMENTS**

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8.

The permit requires influent and effluent monitoring of metals and organic toxics. The organic toxics are listed in UAC R317-8-7.5. Metals monitoring is required twice a year and organic toxics monitoring is required in the 1<sup>st</sup>, 3<sup>rd</sup> and 5<sup>th</sup> year of the permit cycle. For more information regarding sample requirements related to the pretreatment requirements see Part II of the permit.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is also required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review. If local limits are developed it is required that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions 40 CFR, Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed.

### **BIOMONITORING REQUIREMENTS**

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the *Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control, dated February 2018*. Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and UAC R317 -2-7.2.

Since the permittee is a major municipal discharger, the renewal permit will once again require whole effluent toxicity (WET) testing. Acute and Chronic toxicity testing shall be conducted using one species, alternating each quarter between Ceriodaphnia dubia and Pimephales promelas (fathead minnows) for each toxicity test as outlined above in the effluent monitoring tables. Previously, MWRF was only required to conduct Acute toxicity testing and that will still be the case for discharges from Outfall 001, but MWRF is now required to perform both Acute and Chronic toxicity testing at Outfall 002 in accordance with DWQ's updated WET policy entitled, *Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control, dated February 2018*. Specifically, as part of the 'Great Salt Lake WET Policy' section of the aforementioned updated DWQ WET policy, MWRF's Outfall 002 discharges to a severely habitat-limited waters (Class 3E), which then discharges to the Great Salt Lake, requiring both Acute and Chronic WET testing in this case. The renewal permit will also contain the standard requirements for accelerated testing upon failure of a WET test, a Preliminary Toxicity Investigation (PTI) and Toxicity Reduction Evaluation (TRE) as necessary, and a toxicity limitation re-opener provision as appropriate.

### **PERMIT DURATION**

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by  
Jeff Studenka, Discharge  
Daniel Griffin, Biosolids  
Jennifer Robinson, Pretreatment  
Lonnie Shull, Biomonitoring  
Lisa Stevens, Storm Water  
Nick von Stackelberg, Wasteload Analysis/ADR Review  
Utah Division of Water Quality, (801) 536-4300  
November 20, 2018

**PUBLIC NOTICE INFORMATION (to be updated upon permit re-issuance)**

Began: Month Day, Year

Ended: Month Day, Year

Comments will be received at: 195 North 1950 West  
PO Box 144870  
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published in the (NEWSPAPER OF RECORD FOR AREA). During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

**ADDENDUM TO FSSOB**

Attachment 1: Wasteload Analysis

Attachment 2: RP Analysis Summary

DWQ-2017-014442

# **ATTACHMENT 1**

## ***Wasteload Analysis***

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## **ATTACHMENT 2**

### ***Reasonable Potential Analysis Summary***



2014-2018 Summary Results of Reasonable Potential Analysis for Magna POTW (UT0021440)

Parameter	Outfall	No. of Samples	MEC* mg/L	Water Quality Standard MAC**		Outcome/Result
				Acute mg/L	Chronic mg/L	
Total Arsenic	001	10	0.05	1.413	0.154	MEC < MAC***
Total Cadmium	001	10	<0.005	0.0082	0.0008	MEC < MAC***
Total Chromium	001	10	0.005	6.37	0.287	MEC < MAC***
Total Copper	001	10	<0.005	0.0419	0.0298	MEC < MAC***
Total Lead	001	10	<0.02	0.381	0.0136	MEC < MAC***
Total Mercury	001	10	<0.0002	0.0047	0.00021	MEC < MAC***
Total Molybdenum	001	10	0.01	NA	NA	NA
Total Nickel	001	10	<0.005	1.591	0.165	MEC < MAC***
Total Selenium	001	10	<0.0001	0.0331	0.0081	MEC < MAC***
Total Silver	001	10	<0.005	0.0164	NA	MEC < MAC***
Total Zinc	001	10	0.05	0.284	0.38	MEC < MAC***
Total Cyanide	001	10	0.002	0.0052	0.0388	MEC < MAC***

NA – not applicable, no current Water Quality Standard.

\*MEC – Maximum expected effluent concentration as determined from existing data set and initial metals screening.

\*\*MAC – Maximum allowable concentration, UPDES permit effluent limits derived from the wasteload allocation analysis (WLA).

\*\*\*MEC less than MAC. No Acute or Chronic limit required. Based upon the policy “Reasonable Potential Analysis Guidance”, developed by the Utah Division of Water Quality and implemented on September 10, 2015, it was determined not to include any total metal effluent limits in the 2019 renewal permit primarily because the data points reviewed exceeded neither the applicable Water Quality Standards, nor the proposed effluent limits derived from the WLA. Metals monitoring will continue however, as detailed in the permit. This will be re-evaluated during the next permit cycle as appropriate.

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